



MEMORANDUM

To: Transportation Committee

From: CMAP Staff

Date: March 2016

Re: Transit Modernization and Innovation Strategy Paper

As part of the development of the next regional plan, CMAP staff is currently developing a series of [strategy papers](#) – reviewing current policies, emerging issues, and potential future directions – on various issues. This strategy paper will explore transit modernization and innovation. ON TO 2050 is anticipated to build upon the policies and ambitious goals for transit established in GO TO 2040. This strategy paper, to be completed by fall 2016, is being developed in collaboration with the Regional Transportation Authority and a resource group to be made up of operators and local experts. This memo summarizes work to date and advances some potential focus areas for discussion by the Transportation Committee.

Background

As part of its goal of making Chicago's transit network "world-class," GO TO 2040 recommends that the region "improve the operations of the region's transit system, focusing investments on maintenance and modernization." It also recommends adopting best practices in new technologies, widely implementing traveler information systems, establishing seamless coordination between modes, and making user perception a factor in vehicle purchases and station design. These recommendations are meant to lead to a qualitatively better travel experience in terms of comfort, speed, reliability, and usability.

In preparation for GO TO 2040, CMAP also developed a [Public Transportation Strategy Paper](#) in 2009 that highlighted the impact of transit on travel, health, land use, and the economy and identified some possible improvements to the region's transit system. The transit modernization strategy paper will expand on this work, examining potential improvements in light of changing technology as well as a fiscal environment and maintenance backlog that require careful prioritization of new initiatives.

Overview of Strategy Paper

The paper will be made up of two main parts. First, it will review current modernization efforts in the region and examine how emerging technologies and other innovations are changing what transit can be and do. Second, the paper will examine some of the key transit choices that

operators face, such as providing coverage to a large area versus offering frequent service or emphasizing premium services. These choices will be examined in light of different customer needs to outline a potential regional framework for modernization and innovation for the transit system.

Review of Current Efforts and Emerging Strategies

Significant steps toward modernizing the system are already underway in the Chicago region. The CTA's Red-Purple Modernization project is not only replacing century-old bridges, but also expanding capacity and rebuilding stations to accommodate anticipated future demand. Bus Rapid Transit and Arterial Rapid Transit (BRT and ART) projects like Loop Link and Pace's Pulse service are dedicating roadway capacity for buses. Modern payment methods and real time vehicle arrival information have changed the user experience. The region's transit providers have already identified a substantial number of modernization projects to pursue, and could gain additional insight from cities and regions across the country and globe. As background for this section, CMAP staff is researching strategies and technologies that are being used by cities around the world to improve the effectiveness of their transit networks. This will include an examination of emerging "mobility as a service" approaches and how transit can adapt to and leverage them. Key questions for this section include, what innovative strategies can help overcome barriers to the use of the transit system, and what types of technology investments are likely to yield the most benefits?

Modernization encompasses more than physical infrastructure and technological innovation. As consumers' ideas about multimodal transportation evolve, collaboration between transportation operators in the public and private sector will become even more important. The effectiveness of these partnerships can have as large of an impact on a customer's trip as any technology that may be developed. For example, the transportation network company Lyft as well as the Divvy bike-sharing program both advertise their services as a link in the transit system. Partnerships within the public sector are critical as well. For example, projects such as upgrades to Union Station, the integration of bus-on-shoulder and Pace park-and-ride facilities on the I-90 Addams Tollway reconstruction, and transit signal priority will serve transit through the cooperation of several partners.

Framework for Tradeoffs, Constraints, and Priorities

While there is a diverse menu of modernization strategies the region could implement, many involve tradeoffs. For example, express bus service improves speed and travel time reliability, but less frequent stops may exacerbate "last mile" challenges, particularly for riders with mobility limitations. Similarly, premium services or facilities may be more relevant to some riders or potential riders than others, or on some types of trips. In general, different user groups -- such as reverse commuters, discretionary riders, and disadvantaged populations -- may see different benefits from modernization, and this may vary by geography and trip purpose as well. On the other hand, changing technologies could provide opportunities to serve trips from dispersed locations more cost-effectively than with fixed-route transit, helping overcome traditional tradeoffs between service frequency and service coverage. This portion of the paper will develop a framework for understanding the tradeoffs in transit service and technology. It

has a clear connection to CMAP's work on inclusive growth; a strategy paper on that topic is investigating different populations' access to jobs and services.

Input

The strategy paper will reflect a combination of staff research and the priorities of our member agencies. A resource group of about 15 persons, composed of service board representatives, academics, policy advocates, and technical experts will be formed to advise on the project throughout the process. This group will help guide research into how to continue progress toward an integrated, seamless, and sustainable transportation system across the region. Staff welcomes suggestions regarding participation in the transit modernization and innovation resource group.

Discussion questions

Staff is interested in feedback on this project from the Transportation Committee. Specific discussion questions include the following:

- What role do non-transit providers, like transportation network companies, have in complementing the transit system?
- Are there elements missing from the framework sketched above?
- What kinds of tradeoffs might be expected in projects and programs for the next plan?
- What transit innovations have you seen in other cities that could have a big impact here?

Action Requested: Discussion